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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,822	09/24/2003	Jerry G. Aguren	200308699-1	5688
22879	7590	05/02/2007	EXAMINER	
HEWLETT PACKARD COMPANY			NGUYEN, MERILYN P	
P O BOX 272400, 3404 E. HARMONY ROAD			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/669,822	AGUREN, JERRY G.	
	Examiner	Art Unit	
	Marilyn P. Nguyen	2163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 01/30/2007.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-25 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 24 September 2003 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input checked="" type="checkbox"/> Other: <u>Detailed Action</u> . |

DETAILED ACTION

1. In response to the communication dated 01/30/2007, claims 1-25 are pending in this office action.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/30/2007 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the term "by appearing" is vague and indefinite because it's unclear what Applicant means by "appearing" and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Regarding claim 15, the term “the server appears” (line 6) is vague and indefinite because it’s unclear what Applicant means by “appearing” and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claim 1 stand rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As set forth in MPEP 21 06(II)A:

Identify and understand Any Practical Application Asserted for the Invention The claimed invention as a whole must accomplish a practical application. That is, it must produce a “useful, concrete and tangible result.” State Street, 149 F.3d at 1373, 47USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of “real world” value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96);¹ In re Ziegler, 992, F.2d 1 197, 1200-03, 26 USPQZd 1600, 1603-06 (Fed. Cir. 1993). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful.

Apart from the utility requirement of 35 U.S.C. 101, usefulness under the patent eligibility standard requires significant functionality to be present to satisfy the useful result aspect of the practical application requirement. See Arrhythmia, 958 F.2d at 1057, 22 USPQ2d at 1036. Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make the invention eligible for patenting. For example, a claim directed to a word processing file stored on a disk may satisfy the utility requirement of 35 U.S.C. 101 since the information stored may have some "real world" value. However, the mere fact that the claim may satisfy the utility requirement of 35 U.S.C. 101 does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a "useful, concrete and tangible" result to have a practical application.

The claimed invention is subject to the test of State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. Specifically State Street sets forth that the claimed invention must produce a "useful, concrete and tangible result". The Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility states in section IV C. 2 b. (2) (on page 21 in the PDF format):

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a §101 judicial exception, in that the process claim must set forth a practical application of that §101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention ineligible because had "no substantial practical application").

Claimed invention (Claim 1) recites a method comprising steps of receiving a file, creating metadata file regarding the file, and implementing storage strategies for the file based on the metadata which do not provide useful and tangible results as to whether their execution accomplishes a practical application. Merely perform receiving, creating and implementing steps does not set forth a practical application to produce a real world result. A tangible result is not attained after implementing storage strategies which it does not really store the file. The Applicant is suggested to add the limitations of claim 4 to the claim in order to resolve the deficiency.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 15-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Mikesell (US 2004/0153479).

Regarding claim 15, Mikesell discloses a system (Fig. 1) comprising:

- a client computer (User 130, Fig. 1);
- a server coupled to the client computer (Server 120, Fig. 1);

- a first storage device coupled to the server having a storage attribute (smart storage unit 0, Fig. 1);
- a second storage device coupled to the server having a storage attribute (smart storage unit 1, Fig. 1);

wherein the server appears to programs executing on the client computer as a network storage device operating in a user namespace and in a user file structure (See paragraph [0076]); and

wherein the server stores the file on at least one of the first and second storage devices in a global namespace, the selection of the storage location made by the server based on the attributes of the storage devices and storage preferences for the file (See paragraphs [0076-0101], wherein Milesell discloses the selection of the storage location based on the attributes of the storages and storage preferences for the file as “the smart unit 114 is a plug-and-play, high-density, rack-mountable appliance device that is optimized for high-throughput data delivery [0080]...retrieve locally and/or remotely stored metadata about the requested data files [0086]...Information about where to allocate the blocks may be determined by policies set as default parameter [0089]...The forward allocator module 110 receives statistics from the other smart storage units that use the intelligent distributed file system, and use those statistics to decide where the best location is to put new incoming data. The statistics that are gathered includes disk utilization [0096]...A variety of strategies may be used to determine where to store data. These strategies may be adjusted depending on the goals of the system, such as, compliance with parameters or preferences set by the system’s administrator [0098]...The forward allocator module looks up in the root metadata data structure for disk device information

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and calculates the number of smart storage units across which the file data should be spread using performance metrics or preset rules. The forward allocator module may then allocate the blocks of the file to a set of smart storage units [0101].

Regarding claim 16, Mikesell discloses wherein the server further comprises:

a software agent that executes on the server (communication medium 140, Fig. 1);

wherein the software agent interfaces with the client computer (user 130, Fig. 1) and simulates the network storage device (distributed file system 110) operating in the user namespace; and

wherein the software agent decides on which of the first and second storage devices to store the file based on the attributes of the storage devices and the storage preference for the file (See paragraph [0076]).

Regarding claim 17, Mikesell discloses wherein the server further comprises:

a software service that executes on the server (switch 125, Fig. 1); and

wherein the software service stores the file on one of the first and second storage devices based on instructions from the software agent (See Fig. 15 and paragraph [0068]).

Regarding claim 18, Mikesell discloses:

a first software service associated with the first storage device, the first software service that executes on the server;

a second software service associated with the second storage device, the second software service that executes on the server; and

wherein the software agent directs at least one of the first and second software services to store the file on the storage device to which the software service is associated. Please see Fig. 1, Switch 125 and paragraph [0068]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 8-14 and 19-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cannon (US 5,983,239), in view of Mikesell (US 2004/0153479).

Regarding claim 8, Cannon discloses a computing system (Fig. 1) comprising:

- a host computer that executes user programs (Data processing Apparatus 108, Fig. 1);
- a server coupled to the host computer (Data storage subsystem 102, fig. 1);
- a plurality of storage devices coupled to the server (Storage hierarchy 114, Fig. 1);

- wherein the host computer communicates files to the server for storage on at least one of the plurality of storage devices (See col. 6, lines 15-29 and col. 14, lines 40-49); and
- wherein the server selects on which of the plurality of storage devices to store the files based on storage characteristic preferences supplied for each file (See col. 6, lines 29-34 and line 65 to col. 7, line 7). Cannon teaches store the files in the storage hierarchy and determine where files are stored in the storage hierarchy , 114/400 of Fig. 4 (See col. 14, lines 40-49, Cannon et al.).

Cannon is silent as to store the files on file-by-file basis. However, it's well known in the art the files store on file-by-file basis. One having ordinary skill in the art would have recognized that files are being store by one file after another file, thus is well known.

Cannon is silent as to wherein the server appears to be a network storage device operating in a user namespace and in a user file structure and wherein each file is stored under a globally unique name in a global namespace of the server. On the other hand, Mikesell teaches the server 120 appears to be a network storage device (Intelligent distributed file system 110, Mikesell et al.) operating in a user namespace and a user file structure (hierarchical name system) and wherein each filed is stored under a globally unique name in a global namespace (VFS namespace) of the server (See page 6, paragraph [0076], Mikesell et al.). It would have been obvious to one having ordinary skill in the art at the time of the invention` was made to include user namespace and global namespace to the system of Cannon. The motivation would have been to handle data and metadata structure lookup and management (See page 6, paragraph [0076], lines 4-5, Mikesell et al.).

Regarding claim 9, Cannon/Mikesell further discloses the server selects one or more of the plurality of storage devices based on access speed preferences for each file (See col. 28, claim 9, Cannon et al.).

Regarding claim 10, Cannon/Mikesell discloses the server selects one or more of the plurality of storage devices based on reliability preferences supplied for the file (See col. 8, lines 45-58, col. 12, line 60 to col. 13, line 40 and col. 28, lines 7-8, Cannon et al.).

Regarding claims 11 and 22, Cannon/Mikesell discloses moving, by a software agent, the file to a different set of one or more storage devices based on the metadata (See col. 16, lines 38-51, Cannon et al.).

Regarding claims 12 and 23, Cannon/Mikesell discloses wherein the program executing on the server migrates the file based on expiration of a time period specified in the storage characteristic preferences for the file (See col. 17, line 15 to col. 18, line 20).

Regarding claims 13 and 24, Cannon/Mikesell discloses wherein the program executing on the server migrates the file based on obsolescence of the first of the plurality of storage devices as determined by the programs executing on the Server (See col. 17, lines 19-22).

Regarding claims 14 and 25, Cannon/Mikesell discloses deleting, by a software agent, the file after an expiration of a period of time indicated in the metadata (See col. 15, lines 10-35, Cannon et al.).

Regarding claim 19, this claim have substantially the same limitation as claim 8, therefore, they are rejected on similar grounds.

Regarding claim 20, Cannon/Mikesell further discloses supplying, by at least one of the user and a system administrator, a desired access speed for the file (See col. 28, claim 9, Cannon et al.).

Regarding claim 21, Cannon/Mikesell discloses supplying, by at least one of the user and a system administrator, a desired reliability for the file (See col. 8, lines 45-58, col. 12, line 60 to col. 13, line 40 and col. 28, lines 7-8, Cannon et al.).

7. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cannon (US 5,983,239), in view of Howard (US 6,519,612), and further in view of Mikesell (US 2004/0153479).

Regarding claim 1, Cannon discloses a computer-readable medium storing a program that when executed by a processor, causes the processor to:

- receive a file from a client machine (See 604, Fig. 6);

- create metadata regarding the file (database 113, Fig. 1 and col. 6, lines 30-35 and col. 7, lines 47-52), and wherein the metadata defines at least in part data management preferences for the file (See col. 6, lines 30-35); and
- implement, storage strategies for the file based on the metadata (See col. 6, line 65 to col. 7, line 7).

However, Cannon is silent as to implementing storage strategies autonomously of a user of the file based on the metadata. On the other hand, Howard teaches implementing storage strategies autonomously of a user of the file based on the metadata (See col. 20, lines 6-27 and col. 25, lines 50-52, Howard et al.). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to implement storage strategies autonomously of a user. The motivation would have been to provide updated system to the current state of storage without user intervention relay (See col. 20, lines 25-27, Howard et al.)

Cannon, in combination with Howard, is silent as to wherein the server appears to be a network storage device operating in a user namespace and in a user file structure and wherein each file is stored under a globally unique name in a global namespace of the server. On the other hand, Mikesell teaches the server 120 appears to be a network storage device (Intelligent distributed file system 110, Mikesell et al.) operating in a user namespace and a user file structure (hierarchical name system) and wherein each filed is stored under a globally unique name in a global namespace (VFS namespace) of the server (See page 6, paragraph [0076], Mikesell et al.). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to include user namespace and global namespace to the system of Cannon, in combination with Howard. The motivation would have been to handle data and

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metadata structure lookup and management (See page 6, paragraph [0076], lines 4-5, Mikesell et al.).

Regarding claim 2, Cannon/Howard/Mikesell further discloses receive from at least one of the user or a system administrator a desired access speed for the file (See col. 28, claim 9, Cannon et al.).

Regarding claim 3, Cannon/Howard/Mikesell discloses receive from at least one of the user or a system administrator a desired reliability for the file (See col. 8, lines 45-58, col. 12, line 60 to col. 13, line 40 and col. 28, lines 7-8, Cannon et al.).

Regarding claim 4, Cannon/Howard/Mikesell discloses wherein implementing storage strategies based on the metadata further comprises storing the file on one or more storage devices selected by a software agent based on the metadata (See col. 14, lines 40-49, Cannon et al.).

Regarding claim 5, Cannon/Howard/Mikesell discloses moving the file to a different set of one or more storage devices based on the metadata (See col. 16, lines 38-51, Cannon et al.).

Regarding claim 6, Cannon/Howard/Mikesell discloses deleting the file after an expiration of a period of time indicated in the metadata (See col. 15, lines 10-35, Cannon et al.).

Regarding claim 7, Cannon/Howard/Mikesell discloses providing the file to the user from a storage device without the user having to select the source from which the file is provided (See col. 14, line 61 to col. 15, line 7, Cannon et al.).

Response to Arguments

8. Applicant's arguments filed on 1/30/2007 about the claim rejection of the last Office Action have been fully considered, but they are not persuasive.

Response to Applicant's Remarks on 101 Rejections:

Applicant states, "Applicant amends claim 1-7 to remove the method-like terminology. Thus, claims 1-7 are directed to a physical object (computer-readable medium) storing function descriptive material in the form of a computer program. For this reason the Section 101 rejection should be withdrawn."

The Examiner respectfully point out that the amended claim still contain non-statutory subject matter as set forth above in the 101 Rejection section.

Response to Applicant's Remarks on the 102 Rejection as being anticipated by Mikesell (US 2004/0153479).

Applicant argues, Mikesell does not expressly or inherently teach, "wherein the server stores the file on at least one of the first and second storage devices in a global namespace, the selection of the storage location made by the server based on the attributes of the storage devices and storage preferences for the file ". The Examiner respectfully disagrees. Paragraphs [0076-0101] of Mikesell discloses this limitation, as addressed above, especially "the smart unit 114 is

a plug-and-play, high-density, rack-mountable appliance device that is optimized for high-throughput data delivery [0080]...retrieve locally and/or remotely stored metadata about the requested data files [0086]...Information about where to allocate the blocks may be determined by policies set as default parameter [0089]...The forward allocator module 110 receives statistics from the other smart storage units that use the intelligent distributed file system, and use those statistics to decide where the best location is to put new incoming data. The statistics that are gathered includes disk utilization [0096]...A variety of strategies may be used to determine where to store data. These strategies may be adjusted depending on the goals of the system, such as, compliance with parameters or preferences set by the system's administrator [0098]...The forward allocator module looks up in the root metadata data structure for disk device information and calculates the number of smart storage units across which the file data should be spread using performance metrics or preset rules. The forward allocator module may then allocate the blocks of the file to a set of smart storage units [0101]]".

Response to Applicant's Remarks on the 103 Rejection:

Regarding to Applicant's argument on claims 1-7 that "Cannon and Howard fail to teach or suggest programs that "implement, automatically of a user of the file, storage strategies for the file based on the metadata and in a namespace different than the client machine namespace", the Examiner respectfully points out that the claims are rejected as obvious over Cannon and Howard and further in view of Mikesell. Examiner uses Mikesell to clarify the obviousness of the Cannon and Howard references. In response to applicant's arguments against the references

individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); */n re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Regarding to Applicant's argument on claims 8-14 and 19-25 that Cannon and Mikesell fail to teach or suggest "each file is stored under a globally unique name in a global namespace of the server". The Examiner respectfully disagrees, Cannon and Mikesell discloses the limitation as addressed above.

Conclusion

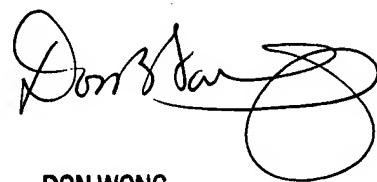
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Merilyn P Nguyen whose telephone number is 571-272-4026.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and 703-746-7240 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

MN

September 18, 2006



DON WONG
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